

Name \_\_\_\_\_ Date \_\_\_\_\_ Hour \_\_\_\_\_

### **Algebra Chapter 1 Practice Test**

#### **1.1 Evaluating expressions (2 pts. Each)**

Evaluate each expression for the given value of the variable.

1)  $10(a^4 - 5)$  when  $a=3$

2)  $19.3 - x$  when  $x = 7.5$

3)  $\frac{2}{3}g$  when  $g = \frac{1}{5}$

4)  $14m + 6n$  when  $m=3$  and  $n=10$

#### **1.1 Distance/Time (2 pts. Each)**

Find the average speed for the given distance and time.

5) A train travels 75 miles in 150 minutes.

6) 300 calories for 4 cupcakes.

7) 100 miles from Franklin to Madison in 1.5 hours.

**1.2 Evaluating expressions containing exponents (2pts. Each)**

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Write each expression in exponential form.

8)  $x \cdot x \cdot x$

9)  $75v \cdot 75v \cdot 75v$

10)  $j$  to the power of  $k$

11)  $3 \cdot 3 \cdot 3 \cdot m \cdot m \cdot m \cdot m \cdot m$

**1.2 Evaluating expressions with exponents and variables (2 pts. Each)**

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Evaluate each expression for the given values.

12)  $4y^2$  when  $y = 4$

13)  $(5m)^3$  when  $m = 2$

14)  $k^4 - 18$  when  $k = 3$

15)  $(c + d)^2$  when  $c = 8$  and  $d = 9$

**1.3 Order of Operations (3 pts. Each)**

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Use order of operations to evaluate each expression.

16)  $\frac{9 \cdot 7^2}{5 + 8^2 - 6}$

17)  $\frac{(2^4 - 6)}{5}$

18)  $\frac{[10 + (5^2 \cdot 2)]}{6}$

**1.5 Translating Verbal Phrases (2 pts. Each)**

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**Write each verbal phrase as an algebraic expression or equation.**

**19) Fifteen minus the quotient of a number  $m$  and three.**

**20) Six less than five times a number  $r$ .**

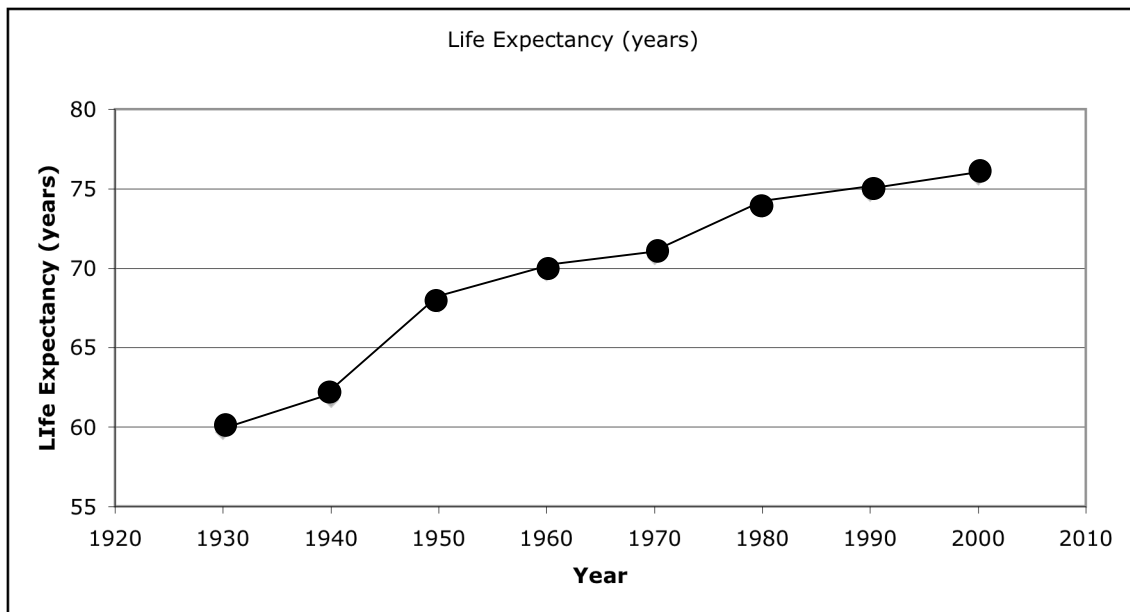
**21) The difference of a number  $x$  and ten is greater than nine.**

**22) Seven is less than twice a number  $n$ .**

**23) One-half a number  $p$  plus seven is thirteen.**

### 1.6 Tables and Graphs (1 pt. Each)

Use the line graph to answer the following questions.



24) In which decade did life expectancy increase the least?

25) In which decade did life expectancy increase the most?

26) What was the life expectancy for the year 1995?

**1.6 Tables and Graphs (6 pts.)**

**27) Use the following information to construct a bar graph that represents the fall enrollment (in millions) in grades K-8 for public and private schools.**

<b>Year</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>2005</b>
<b>Public School</b>	<b>27.6</b>	<b>27.0</b>	<b>29.9</b>	<b>32.4</b>
<b>Private School</b>	<b>4.0</b>	<b>4.2</b>	<b>4.1</b>	<b>4.4</b>

**1.7 Functions (3 pts. Each)**

**Make an input-output table for each function. Use 0, 2 and 3 as the domain.**

**28)  $y = 12 - 3x$**

<b>Input</b>	<b>Output</b>

**29)  $y = 7x + 2$**

<b>Input</b>	<b>Output</b>

**30) Does the table represent a function? Explain why or why not.**

<b>Input</b>	<b>Output</b>
<b>2</b>	<b>5</b>
<b>3</b>	<b>8</b>
<b>4</b>	<b>11</b>
<b>2</b>	<b>14</b>